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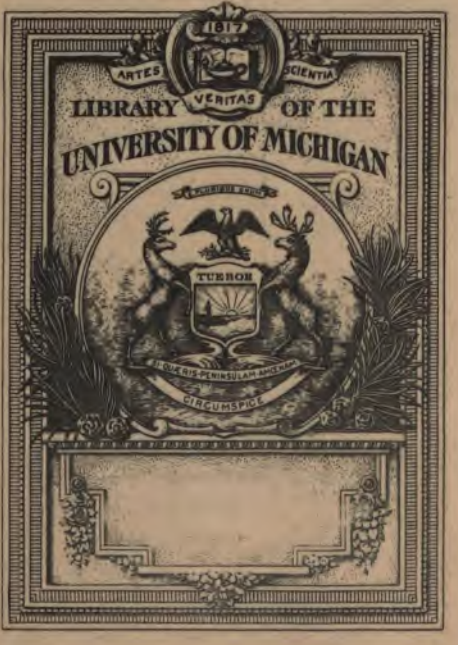

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MANUAL OF NATURAL THEOLOGY

BY

GEORGE PARK FISHER, D.D., LL.D.
TITUS STREET PROFESSOR OF ECCLESIASTICAL HISTORY IN YALE UNIVERSITY

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PREFACE

WHEN I wrote the little volume entitled "Manual of Christian Evidences," I intended, in case it should prove to be acceptable and useful, to prepare a preliminary volume of a like character and compass on Natural Theology. The present book has been written to carry out that purpose. It is designed, like its predecessor, for readers and pupils who have not time for the study of more extended treatises.* It is unavoidable that the subject of Natural Theology should call for a somewhat more severe exercise of attention and reflection on their part than was necessary in connection with the former book. But I have tried to make the discussion as plain as is consistent with thoroughness.

The necessities of man which Natural Religion

* A more full and elaborate discussion I have presented in "The Grounds of Theistic and Christian Belief" (Charles Scribner's Sons, 1883).

fails to meet, and which constitute the ground of the need of Revelation, are pointed out in the "Manual of Christian Evidences," Chapter III.

Modern views of Evolution of necessity modify the method of dealing with the evidences of Theism. But the new scientific doctrine, so far as it can be said to have established itself in the creed of Naturalists of highest repute, has the effect, I am persuaded, to fortify rather than to weaken the argument of design.

G. P. F.

NEW HAVEN, January 12, 1893.

CONTENTS

CHAPTER I.

PAGE

THE NATURE AND ORIGIN OF RELIGION, . . . 1
Meaning of the Term "Religion," 1
Origin of Religion Distinct from its Proofs, . . . 2
Erroneous Theories as to the Origin of Religion, . . 3
No Distinct Faith-faculty, ... 5
The Radical Sources of Religion, ... 7
Self-revelation of God, ... 9
Office of the Arguments for the Being of God, . . 9

CHAPTER II.

THE COSMOLOGICAL ARGUMENT FOR THE BEING OF GOD, 10
The Principle of Causation, ... 10
Cause more than mere Antecedence, ... 11
An Eternal Something, ... 12
Theory of an Infinite Series, ... 12
Cause Implies "First Cause," 14
The First Cause a Free Cause, ... 14
The Source of Natural Phenomena in Will, . . 16
Truth in Polytheistic Religions, ... 17
The Unity of God, ... 17

CHAPTER III.

PAGE

THE ARGUMENT OF DESIGN, ... 19
Meaning of Analogy, ... 19
It is an Inductive Argument, ... 20
Significance of "Final Causes," 21
Chief and Subordinate Ends, ... 21
"Works of Nature" and "Works of Man," . . 22
Is Adaptation an *a priori* Principle? 23
Rationality of Nature, ... 24
Adaptations not mere "Conditions of Existence," . 25
Design in the Structure of the Eye, ... 29
Alleged Defects in the Eye, ... 32
Variations in the Eye among Animals, . . . 33
Design in the Structure of the Ear, ... 33
Wonderful Mechanism of the Ear, ... 35
Evolution: Its Meaning and Its Types, . . . 37
"Natural Selection," 38
Design Implied in the Darwinian Theory, . . . 38
The Broadest Theory of Evolution, ... 40
The Atomic Theory in Lucretius, ... 41
Design Still Presupposed, ... 42
Molecular Physics and Design, ... 43
Evolution of the Eye and the Ear Implies Design, . 44
Argument of Design Strengthened by the Doctrine of Evolution, ... 45
Design Conspicuous in Living Organisms, . . . 46
Design Evinced in Comparative Anatomy, . . . 47
Beauty and Sublimity in Nature prove Design, . . 48
Objection from the Operations of Instinct and the Growth of Plants, ... 48
The Several Sciences Illustrate Design, . . . 49
Design in the Basis of Human Society, . . . 51
Extent of Divine Power, ... 52
The Unity of God, ... 53
Does Design Prove Creation? 54

CHAPTER IV.

PAGE

THE MORAL ARGUMENT, ... 56
The Freedom of the Will, ... 56
Alleged Occult Causes of Choice, ... 57
Alleged Uniformity of Choices, ... 58
Conscious Subjection to Moral Law, ... 60
Conscience not a Form of Self-love, ... 60
Consciousness of a Righteous Lawgiver, . . . 62
The Benevolence of God Inferred, ... 62
A Righteous Moral Governor, ... 63
Proof of the Benevolence of God, ... 64
The Problem of Evil, ... 65
Doctrine of God's Goodness Impregnable, . . . 65
Metaphysical Evil, ... 66
Physical Evil, ... 67
Moral Evil, ... 69

CHAPTER V.

THE INTUITION OF THE INFINITE AND ABSOLUTE, . 72
What the Terms Denote, ... 72
Perception of the Finite and the Relative, . . . 72
The Unconditioned, ... 72
The Infinite and Absolute is Personal, . . . 73
The Infinitude of God's Attributes, ... 74

CHAPTER VI.

ANTI-THEISTIC THEORIES, ... 75
Materialism Defined, ... 75
No Bridge Between Mind and Matter, ... 75
The Conservation of Energy Lends no Support to Materialism, ... 76

PAGE

Reciprocal Influence of Mind and Body, . . . 76
Absurdities of Materialism, ... 77
Materialism Contradicts the Moral Sentiments, . . 78
Argument from Conscience against Materialism. . . 79
Forms of Pantheism, ... 81
Assumptions of Pantheism, ... 82
Pantheism Inconsistent with Conscience, . . . 82
Positivism Self-contradictory, ... 82
Positivism Driven to a Dilemma, ... 83
Herbert Spencer's Agnostic Theory, ... 83
Agnosticism Self-contradictory, ... 84
Religion on a Level with Science, ... 84
Agnosticism Denies Free-will, ... 85
Alleged "Relativity of Knowledge," 85

CHAPTER VII.

THE FUTURE LIFE OF THE SOUL, ... 87
Future Life not Proven by the mere Desire for It, . 87
Materialism Excluded, ... 87
Proof from Capacity for Progress, ... 88
God's Moral Government Incomplete Here, . . 89
Life a Probation, ... 90
Man's Capacity for Fellowship with God, . . . 91

NOTE

THE ONTOLOGICAL ARGUMENT, ... 93
The Argument of Anselm, ... 93
Objections and Answers, ... 94

NATURAL THEOLOGY

CHAPTER I.

THE NATURE AND ORIGIN OF RELIGION

It is the province of Theology to present an accurate statement of the truths and evidences of religion. Natural Theology deals with one branch of the subject. It embraces the doctrines and proofs which are discoverable by "the light of Nature;" that is to say, by reason independently of aid from a special revelation. Hence Natural Theology makes no appeal to the authority of that revelation which Christians, with good reason, believe to have been made to mankind and to be recorded in the Bible. "Religion," in the general sense of the term, signifies the beliefs of men respecting a supernatural power, or powers, together with the feelings and practices connected with such beliefs. The word "Religion" is derived, not, as it has often been thought, from the Latin word *religāre*, signifying "to bind"—in which case the reference

What is Natural Theology?

What is Religion?

would be to the bond uniting man to objects of faith and worship; but it comes probably from *religĕre*, meaning "to ponder"—the idea being a reverential consideration of divine things. In the meaning usually attached to the term in former days, and at present, unless one has occasion to look beyond the limits of Christendom, "Religion" is synonymous with Theism; and by Theism is meant the exclusive recognition of one personal God, with certain cardinal beliefs concerning man and his destiny which are commonly linked to Theistic doctrine.

The *origin* of religion distinct from its *proofs*.

We must not confound the *origin* of religion, or the way in which religious beliefs and feelings spring up in the human soul, with the *proofs* of religion. It is possible that when the rise of religion in the soul is considered, there may be deduced from its very genesis, as a fact of experience, valid evidence of its truth. Yet there is a difference not to be overlooked between our spontaneous impressions and beliefs, and the convictions that rest upon the ground of reasoning and reflection.

As to the origin of religion, various theories which once had their advocates are now obsolete.

Theory that religion is a cunning contrivance.

One opinion that did not lack champions in the past is that religion was at the start a device of shrewd statesmen and law-givers, who invented it as a means of managing

the rude mass of mankind whom they could impress by its hopes and terrors. A kindred theory traced religion to the cunning of priests, who contrived by its agency to build up their sway. A sufficient answer to conjectures of this class is that unless there were beforehand native, powerful tendencies to religion in the human breast, no devices of knavish leaders to establish their control by such means would be of any avail. There would be no response to their appeals. There would be no materials in human nature out of which to forge their instrument. Another old theory was that religion is born of irrational fear. Surrounded by the unknown, men are afraid as children are frightened in the dark. There is no doubt that fear has much to do with the growth of various forms of superstition; but religion is too vast and enduring a superstructure to rest on so slender a foundation. It is nearer the truth to say that religion engenders fear, than that fear engenders religion. Another ancient method of accounting for the religions of the world, which has been revived of late, is that they are the offspring of dreams. Savages dream of the dead whom they have known, especially of deceased parents, and mistake these phantasms for real persons. When, in this way, belief in the existence and agency of ghosts has

Theory that religion springs from fear.

Theory that religion is the offspring of dreams.

been produced, it is said to be a short step to invoke them, and to connect with them other sorts of religious service. Homage paid to dead ancestors, thus arising, is pronounced to be everywhere the primitive type of religion. This theory derives whatever plausibility pertains to it from the circumstance that in the religions of savage tribes, the influence of dreams plays a prominent part. It partakes of the superficiality of those parallel theories which would find the basis of conscience and morality, not in the constitution of the soul, but in the experiences of pleasure and pain, or in other sources purely empirical. Historically, the dream-theory is untenable, since the most ancient forms of religion among heathen nations are not capable of being traced to the origin alleged. This is true, for example, of the religions of the Aryan races.

Not more tenable is "animism," the opinion that the origin of all worship is in the idea of savages that souls make their abode in things living and inanimate. But many gods are simply personified forces of nature. The impression from grand objects, like the sun and the sky, even the feelings of conscience, and a haunting sense of the supernatural, are among the sources of great religions, and even help to shape the worship of rudest tribes. Moreover, it is an assumption that the primitive man was a savage.

Animism.

Some would ascribe religion to a primitive, miraculous revelation. But this would imply in man what may be called a religious nature. To suppose that the fundamental truths of religion gain a lodgement in the mind and heart as we learn about a remote country from a traveller, there being no previous affinity for these truths, no reaching out after God, is hardly less unsatisfactory than the several theories noticed above.

Theory of a primitive revelation.

It is a mistake to suppose that there is an internal faculty of faith, a special organ of spiritual vision, corresponding to the eye by which we perceive the things of sense. The objects of faith are things in their nature invisible, or at all events still in the future. Faith is the mind's confidence in their reality, although it can be verified by no such experimental test as we can apply in the sciences resting on observation. Yet faith, if it be reasonable, is not without sufficient evidence, although of a different kind. The fundamental truths of religion are not demonstrable like the theorems of geometry. The data on which these truths rest are not present in the same form and degree in every mind. With regard to this point, much depends on the state of conscience and moral sensibility, whether or not it be sound and normal. In this province, more than in some others, the bent of the judgment varies with the bent of character. The inward

No distinct faith-faculty.

The data of faith.

certitude of faith is a feeling, but that feeling, it must not be forgotten, has a reasonable ground.

In order to arrive at a correct view of the genesis of religion we must direct our attention to its permanent constituents. What are the elements that persist and appear in its purest and maturest form? In what does the life of religion consist? What is the indestructible root that lives on when rude, wild offshoots from it have withered away? Religious perceptions may be undeveloped. They may be obscure. They may be perverted into a thousand fantastic phases of opinion and sentiment. So the æsthetic nature may be gratified for a while with the coarsest products of art. A bonfire may be admired more than a sunset, and the daub of a village sign-painter preferred to a madonna of Raphael; but we do not thence conclude that there is no sense of beauty native to the soul. Because the moral nature may be seemingly paralyzed, misdirected by passion, so far perverted as to lend a temporary approval to acts of savage cruelty, we do not infer that conscience is no essential function of the human spirit, or that there is no objective, immutable standard of right. In like manner the multiplicity of religions, with the herd of superstitions connected with them, does not disprove the reality of religion as a normal function of our nature, but rather supports its claim to be so regarded.

The true genesis of religion.

When we explore for the sources of religious faith we are brought finally to the feelings of dependence and of obligation, and to the native yearning of the finite spirit for a deeper and more satisfying rest and fellowship.

The radical sources of religion.

When the meaning of the word "I" dawns upon the soul, there is a consciousness, however vague, of individuality, of distinction from things without. We are conscious of the power to act upon things external, including our own physical organism. Yet, at the same time, we are conscious of being acted upon by them. Along with the sense of limitation in relation to the world without, we find in our freedom and self-activity the assurance that it is not upon the world without that we are dependent for our being. The consciousness of self as a finite spirit includes a nascent consciousness of a Spirit Infinite "in whom we live," who is the ground of that being which knows itself as neither self-originated nor yet as of a piece with its environment of matter. But along with the sense of freedom, of personal agency, there awakes in the soul the consciousness of a moral law independent of the will, of a voice within speaking with authority. The Being on whom we are dependent is recognized in the depths of the soul as a righteous lawgiver. The mandates of conscience are felt to be His injunctions. There is a sense of accountableness to Him. But besides these feelings of depend-

ence and of obligation, there spring up yearnings for communion with the Being thus acknowledged or divined to exist. There is a craving for rest in Him. There are feelings of awe and reverence, of thankfulness and love, which flow out toward the Being thus revealed to the soul as the soul's nature is unfolded to itself. Of course it is not pretended that faith in God is, at the outset, explicit. It is germinant, not developed. It may be a surmise more than a belief. It may exist more as an inkling, a presentiment, than as a clear perception. Nor is it overlooked that there may be mental unripeness and moral degradation where, in the room of faith in the living God, there arises a superstitious belief in "gods many and lords many." Nor, again, is it forgotten that an atheistic mood may grow up which paralyzes faith, or a moral recklessness that silences the testimonies within. Nevertheless it is true that the seeds of religion are in this spontaneous consciousness of a bond uniting us to the Author and Sustainer of our being, call it a natural faith, a religious susceptibility, a "consciousness of God," or by whatever other name one may choose to designate it. It is not, be it observed, a blind, irrational feeling. However confused it may be at the outset, a rational element enters into it. A like indistinctness likewise belongs at the outset to the perception of material objects by the senses.

Undeveloped and perverted forms of religion.

Nothing can be known of God, not even His existence, except through the manifestations which He makes of Himself, or his self-revelation. This addresses itself not to the reason exclusively, but also to the conscience and the affections. As in relation to a visible object there must be an open eye to behold it, and as in the case of audible sounds there must be an ear to hear, so, if one would apprehend the self-revelation of God, there must be in the soul an exercise of the power of discernment. And this is inseparable from that prior life of religion in the soul which has been briefly delineated in the foregoing remarks.

God's self-revelation—how apprehended.

The proofs of the being of God are so many self-disclosures which He makes in the world as it presents itself to the senses, or falls under the eye of consciousness. They elicit, enlighten, and fortify the spontaneous belief which is native to the human spirit. The so-called proofs are the recognition of God from different points of view. They bring Him before us in various aspects of His being and character. In the cosmological proof we discern Him as the eternal, self-existent Cause of all things that are. In the argument of Design, we are brought face to face with His wisdom. In the moral argument we are enabled to recognize His moral perfections.[1]

Office of the arguments for the being of God.

[1] For remarks on the "Ontological Argument," see the Note at the end of the volume.

CHAPTER II.

THE COSMOLOGICAL ARGUMENT FOR THE BEING OF GOD

THAT nothing can occur, or come into being, without a cause is a self-evident truth. As it admits of no demonstration, so it requires none, since the contrary is inconceivable. And by this it is not simply meant that we cannot *imagine*, or make a mental picture, of an uncaused occurrence. We know that an occurrence uncaused is not possible. Suppose nothing whatever to exist and the universe to be an infinite void. We know as well as we know anything that nothing could ever come into being. But it is not more difficult to believe that something may begin to exist when nothing existed before than it is to believe that something may begin to exist which has no connection whatever with anything before it. If a given phenomenon which we will designate by the letter *b*, follows upon another phenomenon which we will designate as *a*, yet on the supposition that there is no *nexus* between *a* and *b*—

The principle of causation.

that *a* exerts not the slightest influence in giving existence to *b*—it is plain that we might as well think of *a* as absent altogether. For *a* does not lend us a jot of aid in accounting for the occurrence of *b*. If it were found or assumed that *a* is the *invariable* antecedent of *b*—that is, that *b* never occurs save in this association with *a*, the conclusion is the same. It has been maintained by some that the foundation of the causal idea is the customary association in our minds of one thing with another. The habit of associating in our thoughts one thing with another—for example, fire with a burning sensation when our flesh is brought into contact with it—is due to a mental law. This law or process of association is independent of the will. Therefore, we attribute it to an imaginary necessity. Then, it is contended, we fancy that there is a like bond of connection in external things, and assume some sort of agency or power in the fire with which to produce the consequence. Reflection upon what has been said above will convince us that this solution of the problem of causation is wholly inadequate. There is more in the relation of cause and effect than mere succession or connection in time. The causal intuition is ineradicable. It resists every attempt of the nature described to resolve it into an illusion.

Theory of "customary association."

Cause more than invariable antecedence.

Something must have existed from eternity.

This is an unavoidable inference from the fact that something exists now. We behold the world and ourselves as a part of it. Phenomena appear and disappear. Motion is everywhere. It is a proverbial saying that change is written upon everything. We are compelled by a necessity of thought to recognize the existence of an eternal something, which we may term the First Cause. At this point we do not inquire further. We do not now seek to ascertain the nature of the Being thus proved to exist. That inquiry will come up later.[1]

An eternal something.

Here, however, we may encounter an objection. Grant, it may be said, that the world presupposes a cause of its existence, and that we are shut up to this conclusion: why, nevertheless, may we not suppose that the proximate cause is preceded by one before it, and so on in an endless series? We need not affirm, it

Theory of an infinite series.

[1] It may be well to make mention here of the objection of Kant to the cosmological argument—the argument from causation—that the law of cause and effect is applicable only within the sphere of experience, in relation to finite objects, and to these only as apprehended by us. But this is an assumption. It is a part of the scepticism which underlies the Kantian system. In support of it it is said that "antinomies," or logical contradictions, real and insoluble, arise when the law of cause and effect is attempted to be applied beyond the limit thus defined. But the "antinomies" are soluble. They have been shown to rest upon fallacies.

is alleged, the existence of an eternal being; there is an alternative—namely, the supposition of an infinite series. This objection seems plausible, but a little thought shows it to be fallacious. We require a *cause*, but on the track of an infinite series there is no real cause. There is simply a regress from step to step in search for one. How shall we account for the last member in the supposed series? Not through the next preceding member; for the power is not in that. Nor through the member the third in order back of the effect, nor anywhere beyond. The answer to the objection is stated in a popular way when it is said that "the chain hangs on nothing." The retreat from step to step is merely the repeated postponement of the question, What is the cause? The fallacious character of the hypothesis of an infinite series may be perceived in another way. Time is not an agent. It has in it no causal efficiency. We may, therefore, think away the element of time from the series. Its members are then crowded together with no "before" or "after" in reference to either. Thus it becomes obvious that in the series there is no causal agency whatever. In fine, we do not explain the world, or advance an inch toward explaining it, when we refer it to something that is itself also an *effect*.

In truth, we do not grasp the real significance of the intuition of Cause until we discern that it in-

volves the recognition of a Cause uncaused—a *self-existent* being, dependent upon nothing beyond itself. Attaining this conception the mind is at rest. Until then its demand for a cause is not appeased.

"Cause" implies "First Cause."

We have commented on the theory of an infinite series. In point of fact, however, it is a theory which no one holds. Such as profess to disbelieve in Theism attribute self-existence to matter or to something impersonal. The supposition of an infinite regress of phenomena is not actually embraced. It is nothing more than a weapon to fence with, and then to be immediately cast away.

Infinite series not believed in.

There is another step to be taken in the analysis of the idea of the First Cause. An uncaused cause is a *free* cause. It is a self-moving, self-determining agency. In other words, it is voluntary. The self-existent being is endowed with Will, and being endowed with will is personal. The action of a power which is *necessitated* to act, or to act in a particular way, falls into the category of effects. In our search for the cause of all things that begin to be, we are led up to the acknowledgment of a personal Deity.

The First Cause a free cause.

When we look into the origin of our idea of Cause we are confirmed in the conclusion that the self-existent, eternal being is a voluntary agent.

The human mind is triple in its faculties. It has the three capacities of intellect, sensibility or feeling, and will. In the department of feeling the mind is passive. Feeling springs up of itself, either in the form of sensation through contact with the outer world, or in the higher forms in which it may be awakened within us. So, with a single exception shortly to be noted, our processes of thought are governed by fixed laws of association which are quite exempt from our control. It is by the exertion of the will alone that we become conscious of power, and arrive at the notion of causation. We have no direct knowledge of anything of the nature of cause, nor could we ever get such knowledge, except through this exercise of energy in voluntary action. The will influences intellectual states through attention, which is a voluntary act. We can fasten our observation on one thing, or one idea, in preference to another. The nascent activity of the will belongs to the earliest development of the mind. It is doubtful whether distinct perception would be possible without a directing of the attention to one after another of the qualities of external objects, or at least without such a discrimination among the phenomena presented to the senses as involves the exercise of attention. Now, were it not for this consciousness of causal activity in ourselves, in our own wills, were we merely

Idea of cause derived from our voluntary agency.

the subject of passive impressions from the world without, the conception of cause would be wanting.

Inasmuch as the only cause of which we are immediately conscious is will, it is natural and reasonable to refer the power which acts upon us from without to a will as its direct or ulterior source. Some philosophers on this ground maintain that there is no other power but will-power, and that the activities of nature are identical with divine volitions. It is doubtful whether this conclusion is altogether justified. It is not clear how it is consistent with attributing a distinct reality to external nature and to our own mental being. Nevertheless, analogy inspires the belief that the forces of nature in their origin and continued operation are not dissevered from a Supreme Will. A man by an exertion of will raises his arm, clenches his hand, and strikes a blow. There is force in the arm and force in the fist. Yet the will initiates all, and were the exertion of the will suspended, the arm would drop powerless at his side. Following the suggestions of analogy, we may hold that the operations of nature spring from forces which are not only imparted by the will of God, but are also sustained by the same energizing will. The precise mode of the concurrence of the original and the dependent agency is beyond our ken. While, then, analogy points us to the divine will as the fountain-

Inference that the source of the operations of Nature is in Will.

head of natural forces, and as immanent and active in all things, we are not driven to the conclusion that the ordinary idea of nature as an entity is illusive. We are not obliged to conclude that nature is naught but an aggregate of divine volitions.

Truth in polytheistic religions.

Thus we see that the polytheistic religions were not in error in identifying the manifold activities of nature with voluntary agency. The spontaneous feelings of mankind in this particular have been in accord with the suggestions of philosophy. The error of polytheism lies in its splintering of that will which is immanent in all the operations of nature into a plurality of personal agents, a throng of divinities, each active and dominant in a section of the universe.

How shall we confute polytheism? What warrant is there for asserting the *unity* of the Power that pervades nature?

Unity of God inferred from analogy.

In the first place, an example of such a unity is afforded in the operation of our own wills. We put forth a multitude of volitions; we exert our voluntary agency in many different directions; this agency stretches over long periods of time; yet the same identical will is the source of all these effects. To attribute the sources of our passive impressions collectively to a single *Ego* without, as our personal exertions

consciously emanate from a single *Ego* within, is natural and rational.

The "law of parsimony."

Secondly, what logicians call the "law of parsimony" precludes us from assuming more causes to account for a given effect than are necessary. One self-existent Being suffices to account for the phenomena of nature. To postulate a plurality of such beings—were a plurality of self-existent beings metaphysically possible—would compel the conclusion that they are either in concord or in conflict.

Nature a single system.

Thirdly, the fact that nature is one coherent system proves that the operations of nature spring from one and only one Cause. The progress of science is constantly levelling the barriers which might be imagined to divide the visible universe into distinct and separate provinces. Men speak of the heavens and the earth; but the earth belongs in the starry system. The earth is a planet, and with its associate planets is one of countless similar groups, not alien from one another, but bound together to form the stellar universe. The unity of the world proves the unity of God.

CHAPTER III.

THE ARGUMENT OF DESIGN

THE marks of design in nature reveal to us its intelligent author. For the same reason that we recognize an intelligent cause in the case of countless products of human agency whose particular origin and authorship we know not, we infer an intelligent cause of the objects of nature. In them we discern equal evidence of an end secured by the selection and combination of means adapted to accomplish it. The signs of forethought, preconception, purpose, are just as manifest in what we style the works of nature as they are in the works of man. This mode of reasoning is often considered an argument from analogy. We sometimes apply the term "analogy" to a merely figurative likeness which the imagination suggests; as when we speak of the "analogy" between a rushing stream and the rapid utterance of an excited orator. This is the language of poetry. But when we have always found that certain properties in an animal are united with a given characteristic — for example, speed — we expect,

Character of the argument of design.

wherever we meet the same collection of properties, to find in their company this additional quality. This we look for with a certain degree of confidence even when no special connection between such properties and their associate has yet been detected. This is an argument from analogy. But the argument of design, as J. S. Mill has pointed out, is a genuine instance of inductive reasoning. "The design argument," says Mill, "is not drawn from mere resemblance in nature to the work of human intelligence, but from the special character of this resemblance. The circumstances in which it is alleged that the world resembles the works of man are not circumstances taken at random, but are particular instances of a circumstance which experience shows to have real connection with an intelligent origin, the fact of conspiring to an end. The argument, therefore, is not one of mere analogy. As mere analogy it has its weight, but it is more than analogy. It surpasses analogy exactly as induction surpasses it. It is an inductive argument."[1] Being an inductive argument the conclusion rests on the same basis as most of the truths of natural science. How do we know that yonder apple on the tree at the roadside, when the breeze shall sever it from the bough, will fall to the ground? It is an inference from what is known

It is an inductive argument.

[1] Three Essays on Religion, Theism, pp. 169, 170.

to have occurred in similar instances to numberless material objects. What is the law of gravitation? It is an induction from observed instances, countless to be sure, yet constituting but a fraction of all the cases of which we unhesitatingly affirm it.

The proof from evidences of design is often styled the argument from "final causes." In this expression, the term *final* refers to the end for which anything is made, as distinguished from the *efficient* causes concerned in its origination. The *end* is the purpose in view, and is so called because its manifestation is last in the order of time. Thus, a man purposes to build a house. He collects the materials, brings them into the proper shape, raises the walls, and, in short, does everything needful to carry out his intention. The *final* cause is seen in the completed dwelling for the habitation of his family. The final cause of a watch is to tell the time. The efficient causes are all the forces and agencies concerned in the making of it and in the regular movement of its parts.

Final causes.

It is obvious that a thing may be an end, and, at the same time, a means to another end more remote. When a mechanic is making a spoke, it is the spoke which is the immediate end in view. But the end of the spoke is to connect the rim of the wheel with the hub. The end of the wheel is to revolve upon

Chief and subordinate ends.

the axle; and the wagon is the last end for which all its parts are fashioned and connected. There are subordinate ends and chief ends. We are not, therefore, to ignore the proof of design, even in cases where the chief end, the ultimate purpose, may be faintly or not at all perceived.

It is sometimes said that "we cannot reason from the works of man to the works of nature." Why not? We are seeking to explain the origin of the scene that is spread before us in the world in which we live. Is the cause intelligent? We know from experience what are the characteristic signs of intelligence. These signs are obvious in the world around us. Kant, in his comments on the argument of design, concedes that it is impossible to explain organized beings, even to explain a blade of grass, by mechanical agencies—by natural laws acting without design presiding over them. Yet he says that possibly if we could fully understand nature we might dispense with this solution. This is to say no more than that the argument is not demonstrative. When Kant says that the idea of design is not "constitutive," or objective, but subjective, regulative of our perceptions, he fails to distinguish between two classes of hypotheses. In the case of one class they are only convenient means whereby the mind conceives of objects. They are suppositions which the study of nature

Works of nature to be compared with works of man.

may or may not verify. But in the case of the other class they are such as the objects inevitably suggest and bring home to us in an imperious way. Common sense perceives and asserts a correspondence of the objects to them. This is true of the adaptations recognized in the works of nature. Even if Kant is acknowledged to be right in holding that belief in design is not necessary like belief in efficient causes, it does not follow that our conviction of the reality of design is not well-founded. We cannot *demonstrate* that the men about us have souls like our own; yet we are as sure of it as if we could.

Is adaptation an *a priori* principle?

We have thus far spoken of the design argument as analogical or inductive. But there are philosophers of deservedly high repute who look upon the principle of adaptation as intuitive or *a priori*, and thus on a level with that of efficient causation. It cannot be denied that much can be said in favor of this doctrine. Is it not just as natural to inquire for what purpose things are as to ask how they are produced? Are we not as much impelled to ask "What for" as "How," or "Whence?" That there is an orderly plan in the world is presupposed in inductive reasoning. Induction assumes the uniformity of nature. From a multitude of known instances of mortality we conclude that all men are mortal. The uniformity

Induction implies design.

of nature involves the truth that nature is a system, or proceeds according to a plan. The postulate of science is the rationality of nature. Science, as Professor Huxley truly declares, is "the discovery of the rational order that pervades the universe." Without this presupposition of a rational order, scientific investigation would be a chase after a chimera. Nature, it is taken for granted, is the embodiment of thoughts. What is a book of astronomy but a transcript of the thoughts that are realized in the structure of the heavens? All nature is but a book which science undertakes to decipher and read. When the student explores any province of nature, it is to find in it laws and adaptations. "Our reason," says a recent writer, "demands that there shall be a reasonableness in the constitution of things. This demand is a fact in our psychical nature as positive and irrepressible as an acceptance of geometrical axioms and our rejection of whatever controverts such axioms." "There is in every earnest thinker a craving after a final cause; and this craving can no more be extinguished than our belief in objective reality. Nothing can persuade us that the universe is a farrago of nonsense. Our belief in what we call the evidence of our senses is less strong than our faith that in the orderly sequence of events there is a meaning which our minds could

Rationality of nature.

Craving after a final cause.

fathom were they only vast enough."[1] In favor of the view that the belief in design is intuitive, and as such underlies all science, is the fact that it has guided, and proved an aid, in scientific discovery. As an instance, Harvey was led to find out the true system of the circulation of the blood by observing that in the channels through which the blood flows, one set of valves open toward the heart, while another set open in the opposite direction.

Because nature is a rational system, it is adapted to our cognitive faculties. This correspondence proves that the author of the mind is the author of "the mind in nature." What being, says Cicero, that is "destitute of intellect and reason could have produced these things which not only had need of reason to cause them to be, but *which are such as can be understood only by the highest exertions of reason?*"[2]

Nature adapted to our cognitive faculties.

It is objected to the argument of design that what are styled adaptations are nothing but "the conditions of existence" of objects in nature. These conditions being what they are, the various objects in which design is supposed to be shown could not be different from what they are. For example, the bird is said to be adapted to the air through which it flies; but the bird could not exist were

Adaptations not mere "conditions of existence."

[1] John Fiske: "The Idea of God," p. 138.

[2] De Nat. Deorum, II. 44.

it not for the air in which its wings are moved. The objection is equivalent to an attempt to explain the objects of nature by mechanical agencies and conditions.

The objection has no force if the intuitive belief in final causes, or design, is admitted. But, apart from this consideration, "we find not merely the conditions of mere existence in the causes of effects produced, but the conditions of well-being, or adaptations to a highly artificial, elevated and refined existence and enjoyment." We find *use* so related to *structure* that the thought of design springs up unbidden. Take, for example, the human eye. It is an instrument employed by a rational being for a purpose, as he employs a telescope or a microscope. When we see how the eye is fitted to its use, we cannot resist the impression that it was *intended* for it. The *idea* of the organ we discern. As Whewell well puts it: "*We* have in our minds the idea of a final cause, and when we behold the eye, we see our idea exemplified. This idea then governed the construction of the eye, be its mechanical causes, the operative agencies that produced it, what they may." "Nothing," says an able writer, "has been proved against final causes when organic effects have been reduced to their proximate causes and to their determining conditions. It will be said, for instance, that it is not

Design in the structure of the heart.

wonderful that the heart contracts, since it is a muscle, and contractility is an essential property of muscles. But is it not evident that if nature wished to make a heart that contracts, it behoved to employ for this a contractile tissue, and would it not be very astonishing were it otherwise? Have we thereby explained the wonderful structure of the heart and the skilful mechanism shown in it? Muscular contractility explains the contraction of the heart; but this general property, which is common to all muscles, does not suffice to explain how or why the heart contracts in one way rather than another, why it has taken such a form and not such another. 'The peculiarity presented by the heart,' says M. Cl. Bernard, 'is that the muscular fibres are arranged in it so as to form a sort of bag, within which is found the liquid blood. The contraction of these fibres causes a diminution of the size of this bag, and consequently an expulsion, at least in part, of the liquid it contains. The arrangement of the valves gives to the expelled liquid the suitable direction.' Now the precise question which here occupies the thinker is, how it happens that nature, employing a contractile tissue, has given it the *suitable* structure and arrangement, and how it rendered it fit for the special and capital function of the circulation. The elementary properties of the tissues are the necessary conditions of which nature makes use to solve

the problem, but they in no way explain how it has succeeded in solving it. Moreover, M. Cl. Bernard (a learned physiologist) does not decline the inevitable comparison of the organism with the works of human industry, and even often recurs to it, as, for instance, when he says: 'the heart is essentially a living *motor machine*, a *force-pump*, destined to send into all the organs a liquid to nourish them. . . . At all degrees of the animal scale, the heart fulfils this function of *mechanical irrigation*.' . . . 'We may compare,' he says, 'the histological elements to the materials man employs to raise a monument. . . . No doubt, in order that a house may exist, the stones composing it must have the property of gravitation; but does this property explain how the stones form a house?'"[1]

It might be said of a locomotive that—the boiler of iron, with its capacity to hold water, being present, and the water being in it, and fire beneath it, and a chimney above for the smoke to escape, and pipes through which steam can pass connected with the boiler, and wheels beneath on which the locomotive can roll—it is sufficiently explained. But the combination of these parts, in their peculiar forms, and the relation of the whole to that which the locomotive does, are things which the foregoing statement altogether fails to account for.

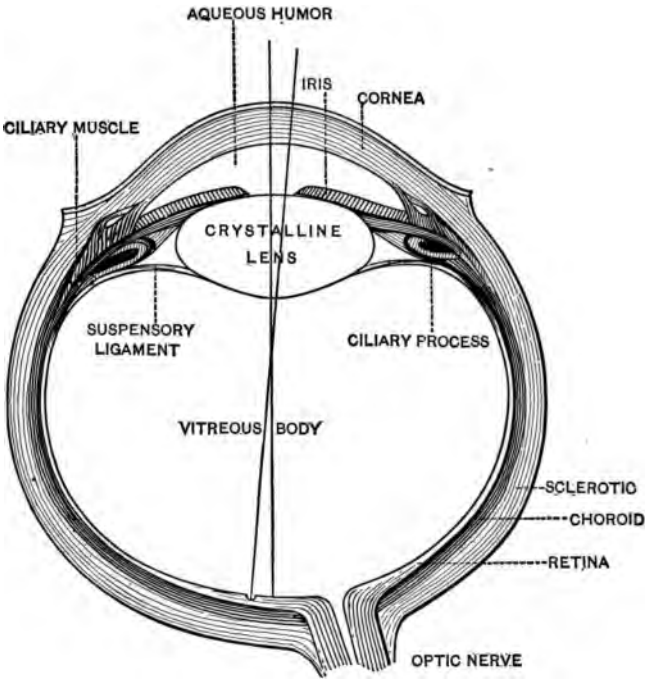
[1] Janet's "Final Causes," pp. 129–131.

It is through concrete examples that the most vivid impression is made of the design that is exhibited in nature. The human eye and ear furnish familiar and striking illustrations of a pre-conceived plan.

Design in the structure of the eye.

The eye is protected by a lid which moves with great quickness, and is opened and shut at our pleasure. This delicate organ is thus defended from harm, as we take care to shield optical instruments from injury. When the eye itself is examined, it is found to be almost spherical in form. It is discovered to be a darkened chamber—a *camera obscura*, having in the anterior part a bi-convex lens, which is named the crystalline lens, by which objects are focussed on the sensitive surface of a membrane called the retina. The eyeball, instead of being in a fixed position, has muscles attached to it, and can be turned in different directions, corresponding to the place of objects in the field of vision—as a photographer's instrument can be turned upward or downward, to the right hand or the left. The requisite refraction of the rays of light, whereby they are brought to a focus and form an image on the retina, is effected by their passage through the cornea, the transparent coating of the eyeball, the aqueous humor, the crystalline lens, and the vitreous humor. The special use of the lens is in accommodating the eye to objects at different dis-

tances, since when it is removed by an operation for the cataract, the power of vision is not lost.



HORIZONTAL SECTION OF THE LEFT EYE.

The interior of the eye is darkened by the pigmented choroid lining and by the iris, the continuation of it. In the centre of the iris is the pupil, an aperture for admitting the light; and the iris

itself, by means of two systems of muscular fibres, contracts or dilates the pupil, according as the light is more or less intense. The retina is so made that it is stimulated by the impact of light upon it, and there ensues an excitation of the fibres of the optic nerve. When waves of light of different lengths impinge on the retina, special effects are produced, giving in sensation the different colors. The apparatus for obtaining images of objects near and far is one of the most curious features in the structure of the eye. In optical instruments, in order to obtain a distinct image, the distance between the lens and the surface on which the image is to be formed has to be increased or lessened by moving either this surface or the lens forward or backward. In this way the photographer adjusts his instrument. The focal point of the lens is made to correspond with the plate. In the eye there is a peculiar mechanism by which a like result is effected. This mechanism causes the lens to become more convex when a near object is to be looked at. The lens is placed between two layers of a suspensory ligament, which is a prolongation of the choroid, one of the three interior coats of the eye. With this ligament is connected the ciliary muscle, which, when it is lax, leaves the lens in the compressed state. But when a near object is to be viewed this muscle pulls upon the

Accommodation of the eye to distances.

choroid, relaxes the ligament, and the lens forthwith bulges out. Here is a self-adjusting apparatus by which the eye accommodates itself to the perception of things not far off. Without it the focus would be behind the retina, and no image would be formed upon it. In the normal eye of a person thirty years old, a distinct image can be formed of an object not nearer than five inches from the organ of vision.

Without going farther in this description, it is difficult to avoid the impression that there is design in the characteristics which have been adverted to, such as the arrangement for turning the eye in different directions, and for seeing distinctly objects near as well as remote; the method of darkening the interior and of regulating the admission of light; the peculiar functions of the retina and its relation to the optic nerve.

Alleged defects in the eye.

The eye has been criticised as in some particulars defective, when considered as an optical instrument. If it were defective, it must be remembered that a defective instrument does not disprove design in its maker, whatever reflection it may be thought to cast on the perfection of his skill. But Helmholtz, one of the critics of this class, himself says: "The adaptation of the eye to its function is therefore most complete, and is seen in the very limits which are set to its defects. Here, the re-

sult which may be reached under the working of the Darwinian law of inheritance, coincides with what the wisest Wisdom may have devised beforehand."[1]

Variations of the eye among animals.

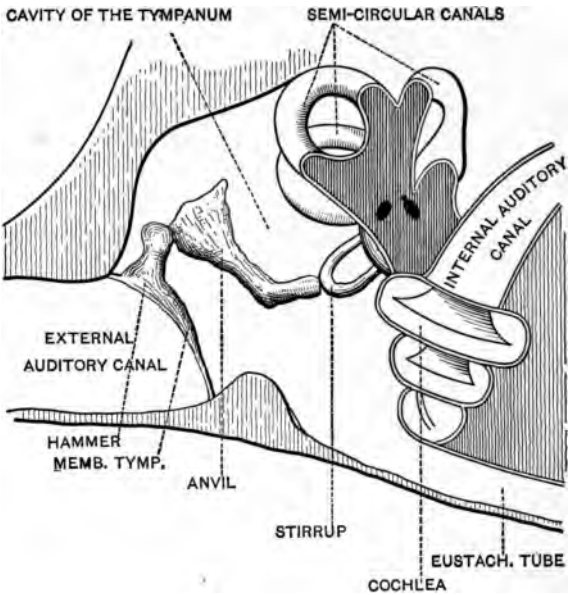
The study of the variations in the structure of the eye to suit the habits and modes of different animals offers fresh illustrations of design. For instance, the shape of the pupil is adapted alike to animals which require a long vertical range of vision and to those to whom a long horizontal range is necessary.

The structure of the ear.

The proofs of design in the structure of the ear are scarcely less wonderful than those which are seen in the eye. The auricle, or external ear, and the adjacent auditory canal are so shaped as to gather the vibrations of air, and direct them upon the membrane of the tympanum, or drum. In some animals, it may be here observed, the auricle has the form of a trumpet, and is turned by muscles in various directions. The drum has a muscle attached to it, the *tensor tympani*, which pulls it inward, making it more tense. When the muscle is relaxed, it returns to equilibrium by its own elasticity. Thus there is provided the means of receiving and transmitting sounds of different pitch. The vibrations of the air are carried inward to the tympanum or internal ear by the drum, and by a chain of three little

[1] Quoted by Martineau, "A Study of Religion," I., 365.

bones, the ossicles, stretching across the cavity of the drum and forming together a lever by which the vibrations are diminished in extent, but in-



VERTICAL SECTION OF THE AUDITORY APPARATUS.

creased in force. The Eustachian tube forms a connection between the cavity of the tympanum and the pharynx. Thereby an undue pressure of the atmosphere upon the tympanum from without

may be met by a counter-pressure of air from within. The internal ear, or labyrinth, is partly bony and partly membranous. It is filled with water, and over its lining membrane are distributed the terminal fibres of the auditory nerve, whose excitations precede the sensations of sound. The most highly specialized portion of the labyrinth is the cochlea—so called from its resemblance to a snail-shell. At a certain place within the cochlea is the wonderful organ named the "Corti." This is supposed to contain three thousand pairs of rods or stiff cells, and between ten thousand and fifteen thousand hair-cells. The membrane which carries the Corti receives the vibrations. By it sounds are differentiated in kind and degree. It is thought by Helmholtz and Henan that the fibres of this membrane, like the strings of the piano, respond with different notes to different vibrations. "Within the ears of men," says Tyndall, "and without their knowledge or contrivance, this lute of three thousand strings has existed for ages, accepting the music of the outer world, and rendering it fit for reception by the brain. Each musical tremor which falls upon this organ, selects from its tensioned fibres the one appropriate to its own pitch, and throws that fibre with unisonant vibration. And thus, no matter how complicated the motion of the external air may be, those microscopic strings can analyze it and reveal the constituents

of which it is compound."[1] A somewhat different theory as to the mode of action of the Corti is held by Rutherford and some other physiologists. They suppose that the cells of the Corti are all impressed by every vibration, and that corresponding nerve-impulses occur, "just as in a telephone the sound-vibrations are translated by the iron plate and magnet into electrical movements which correspond to those of the sound received." Physiologists find in instruments which are the products of the most delicate ingenuity, parallels to the apparatus by which sounds are made audible. In the human ear, and occupying very little space, we find a mechanism infinitely surpassing in its effects the capacity of all musical instruments collectively taken. Wordsworth, in his ode on the "Power of Sound," has set forth the wonder and mystery of the organ of hearing and the boundless range of its capacity. By its means there are conveyed to the soul within the shouts of the joyous and exulting, shrieks of the suffering, and

> "Warbled air,
> Whose piercing sweetness can unloose
> The chains of frenzy, or entice a smile
> Into the ambush of despair;
> Hosannas pealing down the long-drawn aisle,
> And requiems answered by the pulse that beats
> Devoutly, in life's last retreats."

[1] "Sound, a Course of Eight Lectures," etc., p. 324.

It is an argument in Natural Theology which the Sacred Writer utters when he exclaims (Ps. 94 : 91) : " He that planted the ear, shall He not hear? He that formed the eye, shall He not see? " Can we believe that the Power to which the ear and the eye owe their being is itself not capable of seeing and hearing?

Evolution and design.

It is sometimes thought that the argument of design is invalidated by the doctrine of Evolution. This impression is quite erroneous. Evolution, although the word may begin with a capital letter, is not a person, nor is it an entity of any sort. It denotes, not a cause, but only a method.

Meaning of evolution.

Evolution as a doctrine respecting nature stands in contrast with the idea of special acts of creation, immediate interpositions of power. As a theory in zoology, it signifies that what is true of the individuals of a species, is equally true of species themselves in relation to one another. Their connection is genetic. They arise by descent, rather than by particular creative acts.

Different types of evolutionary theory.

One class of evolutionists hold that the origin of each particular species is *per saltum;* that is, that its first progenitors, with all their distinguishing characteristics, are generated at once from a preceding species; new sorts of animal life, once originated, having

the power to perpetuate themselves. Darwin's view, on the contrary, is that existing varieties of structure among animals result from very slow and gradual variations. There is a tendency to slight variations, and there is a force of heredity by which variations of form, when they once arise, are transmitted. Those particular variations which give to an animal an advantage in procuring his food and in self-defence by degrees increase, or are built up, through the mating of animals possessed of them. By a mysterious principle of "correlation," the remaining parts of the animal structures so modify themselves as to harmonize with the particular part thus altered. In this way, it is conceived, the different types and kinds of animal life, in the course of long periods of time, derive their existence. They are all —so Darwin stated in his earliest work on the subject—descended from a few primitive forms. The method by which certain offspring are formed and enabled to survive, when others perish, is termed Natural Selection. By Herbert Spencer this method of Nature is termed "the survival of the fittest."

"Natural Selection."

It is plain that, if the Darwinian theory be accepted, it does not avail in the least to exclude the evidences of design. The primitive forms of animal life, which contain in them potentially all the forms that are to spring from them, require to be accounted for.

Design implied in the Darwinian theory.

No reasonable explanation can be given of them except that they are the product of a preconceived purpose. The problem of origin is merely shifted back. Moreover, we have to take account of the combined action of heredity and of that tendency to depart from it which is called variation. When we see the results that are wrought out by these agencies, in conjunction with that unexplained agency which is styled correlation, we are almost irresistibly impressed with the conviction that they are the instruments of plan and foresight. They are instruments of conscious wisdom and power, or modes in which these attributes are exerted and manifested. The very term "Natural Selection" indicates as much, since selection is the function of mind and will. The attempt to escape this implied adaptation by substituting the phrase "survival of the fittest" costs an effort, and even then really fails of success. The "fittest" is that which has been fitted with success to the end in view.

The outcome proves design.

It is true that certain naturalists assume a boundless, hap-hazard variation as providing the materials which are furnished for the exercise of natural selection. They assume numberless abortive forms of animal life which disappear, leaving only a limited number of survivors. But who does not see that what is called "accident" can have no place in a sphere where it is confessed on all hands that necessity

reigns? At one end of the line there is a certain constitution of things, certain laws and tendencies. At the other there is the orderly system, the object of science. Be the intermediate steps what they may; grant that there is an intermediate interval of chaos and confusion, adaptation is proved. But this hypothesis of a "chance-variation" is not verified by scientific observation. The chances are infinite against the likelihood of the building up of the species of animal life on such a basis. There are laws of variation. Limitations are set around it. We repeat, however, that, whatever speculations may be advanced on these points, it is undeniable that the animal kingdom, as we now behold it, is the effect of a combination of causes or antecedents tending to this result, and to this result alone. The inference of design, operative from the beginning, is therefore legitimate.

The broadest theory of evolution.

But there is a broader form of evolutionary doctrine which may be considered here. It has not been shown from observation or experiment that life can be produced from that which is lifeless. Nevertheless there are those who hold that there is no break at this point in the course of development. There is an opinion that all things spring out of a primitive world of atoms, the ultimate constituents of matter, and that through the motions and combinations of atoms, in incalculable periods of time, with no in-

tervention from without, all things have come to be. This was an ancient opinion. It is set forth by the Roman poet, Lucretius, a disciple of the Epicurean school. He supposes that as a consequence of the commotion and concussion of atoms, after an almost endless series of unstable results, a combination was reached that was capable of abiding. This theory is thus expressed:

Lucretius.

> "For never, doubtless, by the thought of each,
> Or mutual compact, could elements distinct
> First harmonize, then move in ways defined.
> But ever changing, ever changed, and vext
> From earliest time, through ages infinite,
> With ceaseless repercussion, every mode
> Of motion, magnitude and shape essayed:
> At length together they assumed the form
> Of things created."[1]

The same theory has been broached, with some modifications, by certain modern writers. The Lucretian theory attributes the world to "chance." We use this word to denote an occurrence, or an object, the particular cause of which is not detected, and which bears in it no evident marks of forethought. We apply the word, for example, to the result of a throw of dice. I drop a handful of coins on the floor. They fly in different directions, and they fly in different directions, we say, as "chance" directs. On the theory which

"Chance."

[1] De Rerum Natura, I., 1021-1028.

we are considering the world is accounted for as the final result of what is equivalent to an almost infinite succession of throws of dice. This can not be said to be literally impossible, as it is not literally impossible that a font of types thrown into the air should come down in the form of Homer's Iliad. It is, however, so unlikely an occurrence as to be next to impossible. Imagine time to be given for the repetition of the experiment billions of times—the unlikelihood of the issue is not perceptibly diminished. Cicero, commenting on this theory of the Epicureans, after speaking of the vast orderly system of things beheld above us and around us, exclaims: "Is it possible for any man to behold these things, and yet imagine that certain solid and individual bodies move by their natural force and gravitation and that a world so beautifully adorned was made by their fortuitous concourse? He who believes this may as well believe that if a great quantity of the one-and-twenty letters"—the number of the letters in the Roman alphabet—"composed of gold or of any other matter, were thrown upon the ground they would fall into such order as legibly to form the Annals of Ennius? . . . If a concourse of atoms can make a world, why not a porch, a temple, a house, a city, which are works of less labor and difficulty?"[1] But assume that the

Design presupposed.

[1] De Nat. Deorum, II., 37.

existing world was once a chaos of atoms. Why did all the prior combinations of atoms fail? Why did the numberless forms of motion and association prove unstable? Manifestly because the multitudinous atoms were *adapted* exclusively to that final form of combination in which order and stability are united. We have still another instance of the carrying back of design; but from design there is no escape.

The students of physical science at the present day as a class are far from holding to this precise theory of the origin of things. Yet physical science rests upon the hypothesis of the atomic constitution of matter. We are carried back in physical investigation to a world of indivisible particles which are combined into molecules. What beneath the world of atoms there may be, we cannot tell. We can explore no farther. But we say again that the world of atoms bears witness to design as truly and in the same degree as the whole structure of things that spring from it. Sir John Herschel goes so far as to say that the atoms, the primitive elements of which material nature is composed, have all the appearance of being "manufactured articles." "The more purely a mechanist the speculator is," says Professor Huxley, "the more firmly does he assume primordial molecular arrangement, of which all the phenomena of the universe are consequences, the more completely is

he thereby at the mercy of the teleologist, who can always defy him to prove that this primordial molecular arrangement was not intended to evolve the phenomena of the universe."[1] But the teleologist can go farther than to defend himself against his assailant; he can overthrow him by a simple appeal to the competent, unperverted judgment of mankind, or the voice of common sense, which recognizes and affirms design.

Evolution of the eye and the ear presupposes design.

We have spoken of the eye as elaborated in the dark, and likewise of the ear as formed where the air has no access. On the grounds of evolutionary theory it is objected that this is not true of the rudimental eye and ear. We are told that the beginnings of the eye are produced by the impact of rays of light upon protoplasm. By protoplasm is meant the lowest form of living matter which is not differentiated into organs. Because it is living, although it can be analyzed chemically and its component inorganic elements ascertained, the analysis kills it. Now it is said that the contact of light with the jelly-like substance called protoplasm excites in it a feeling which centres in a certain spot, that there differentiation begins and the faint starting-point of the eye appears. The impact of air elsewhere on the protoplastic mass produces the "rudimentary point" of the organ of

[1] "Critiques," p. 347.

hearing. New differentiations, each in its own line, follow under like conditions. They are transmitted by the law of heredity. At last the perfected organs, as they are found in man, appear. If these statements could be verified as facts of natural history, they would be powerless to disprove design. It is obvious that the rudiments of the optical and the auditory nerves could not arise unless there were a response, and a response in these several forms, within the mass of protoplasm, to the impact of the light and the air. It is absurd to say that the waves of light create the eye, or that the undulations of the air create the ear. The most that the light and the air can be imagined to do is to evoke activities that slumber in the protoplasm. The germinant agencies are there, as truly as in the plant kingdom the life, and the form which the life will take, are in the germs that are developed under the influence of the sunshine and the rain.

The design argument strengthened by Evolutionary theory.

If evolutionary doctrines have raised difficulties in Natural Theology they have given to the argument of design a more impressive force. It remains to be proved that a new increment of divine energy, introduced into the ordinary flow of development, is not to be assumed at certain points in its progress; for example, in the bringing of life into the realm of inorganic substances, and in the origin

of man, at least as regards his rational powers. But however this may be, natural science at the present day holds up to view the spectacle of a steady, orderly succession, rising, step after step, until at the summit of the series we arrive at man. The system culminates in him. Nature is seen to be pointing upward to him, and working toward him. The idea of man is the preconception at the basis of the whole movement.

Design conspicuous in living organisms.

It is in living organisms that the marks of forethought and selection strike the beholder with most force. In an organism every part is both means and end. The very term "part" is hardly proper in reference to a system which is animated by a single life. The nature of an organism, and, at the same time, the highest example, may be seen in the human body. Its members are "members one of another." Thus, the skin which covers it is indispensable to its life and health, and is ever conducing to this end. Yet the organism as a whole is perpetually at work in weaving this covering for itself. Let a burn destroy a part of it, and the entire system instantly sets to work to repair the loss. Unless the extent of the loss is excessive it accomplishes the task. When the task is too great, it dies in the attempt. The impression of design, made by the human organism as a whole, is more and more deepened as we study its various organs, one by one. We have

already considered the structure of the eye and of the ear as they are related to their respective functions. The study of the apparatus of digestion, or of respiration, or of circulation, when the student does not try to speculate himself out of the natural impression which these wonderful arrangements make upon the mind, inspires anew the conviction that they were planned beforehand.

Design evinced by comparative anatomy.

The study of comparative anatomy constantly reveals the design which is presupposed in the adaptations of animals to their environment. Their instruments of motion, their instruments for procuring food, their weapons for attack and defence, their organs for producing and feeding their young, are varied in striking and evidently ingenious ways to suit the element in which they live. If it be said that all these multiform variations of structure are themselves the effect of circumstances, the answer, as before, is, that unless a prior susceptibility and capacity of being thus shaped and directed inhered in the matter, be its form what it may, on which environment is brought to bear, the phenomena in question could never arise. The proof of design remains in its full strength.

The beauty which is spread through nature is a manifestation of design. The tints of the flowers and the bright, variegated plumage of the birds display an artistic hand. Beyond what is requis-

ite for what may be termed practical necessaries and uses, there are provisions for securing charms of form and color. Who can look at that miracle of delicate art, an orchid blossom, and not be struck with the feeling that contrivance and matchless taste are concerned in its origin? The same inference follows from the sublime in nature. If the groined arch of the cathedral is uplifting, much more the majestic dome of the sky. It does not avail to say that these impressions of the beautiful and sublime are subjective, that they are dependent on the structure of our faculties. Hold what theory respecting beauty one may, it remains true that there is a wonderful adaptation in the external world to our æsthetic nature.

Beauty and sublimity in nature prove design.

Before illustrating further the argument of design, we choose this place to notice a not unfrequent objection which is made against it. It is said that in the operations of instinct in the lower animals, and even in the plant kingdom, we have examples which are quite analogous to the effects of selection and combination, and yet are obviously not the fruit of design. The flight of migratory birds by straight pathways from one region to another, the architecture shown in the habitation which the beaver constructs for itself, the skill observed in the doings of a swarm of bees, are only a few

Objection from the operations of instinct and the growth of plants.

among instances innumerable where instinct imitates and may often surpass the achievements of human contrivance. The clusters of fruit upon a grapevine, and fair blossoms, like the rose, may remind us that the unconscious life of the plant generates products which the art of man cannot rival. Why not, then, attribute all things that are taken to indicate design in the world to unconscious, unreflecting agency, operating after the manner of plant life or animal instinct? The answer to this question should readily suggest itself. Just for the reason that the products of instinct spring from an impulse in the animal, which involves in it no preconception, we are driven to presuppose a designing mind that planted the instinct and guides it to its goal. Without this supposition, we have a cause that is plainly not commensurate with its effect. We have works that bear on them the characteristic mark of reason where reason is absent from the cause. The same answer is to be rendered to the suggestion that the wonders of the vegetable kingdom are explained when they are referred exclusively to causes void of consciousness and will.

There is no one of the sciences which does not afford striking illustrations of design.[1] In mathe-

[1] This topic is treated by Porter in his "Human Intellect," p. 607. There are interesting remarks on the subject in Flint's "Theism," p. 367 seq.

matics many formulas have been devised, and problems proposed and solved which have been afterwards found to hold good—to have been anticipated—in the constitution of nature. Astronomy, in the relations and motions of the heavenly bodies, has irresistibly impelled the greatest masters in this branch of science, to discern the power and wisdom of God in the starry system. Kepler could not resist the conviction that in discovering the astronomic laws he was rethinking the thoughts of God. The laws of modern chemistry bear the same testimony to the presence and agency of a Supreme Intelligence. The list of adaptations in water alone, through its abundance, the adjustments of its specific gravity, its power of being converted into vapor, condensed into rain, and changed into steam, its relations to heat and cold, its agency as an almost universal solvent, its mechanical capacities by which it can corrode the rocks and circulate in the rose-leaf and through the lungs of man —this list forms of itself an instructive chapter.[1] Geology has unfolded a plan and order of development in the progress of the earth itself and of the successive orders of its inhabitants up to man. Geography, as taught by its most eminent teachers, as Karl Ritter, has pointed out in the physical feat-

The Sciences illustrate design.

[1] See Professor J. P. Cooke's "Religion and Chemistry," Lecture V. (New York, 1864).

ures of the globe, and in its relation to the races that have dwelt upon the different portions of it, impressive indications of a divine plan for the rise and spread of civilization. The history of mankind displays a guiding and overruling providence which it would seem almost impossible for an attentive student to fail to discern.

Design in the basis laid for human society.

The provisions incorporated in nature, which have relation to man as a social being, lead the mind by an almost irresistible attraction to the recognition of a divine wisdom as the only reasonable explanation of their origin. We might refer to language, and to the physical apparatus and mental faculties which give rise to its beginnings and growth. By inscrutable agencies in Nature the sexes are in a certain proportion to one another, a proportion which varies within narrow limits. The sexes are pretty nearly equal in number. Foundations are laid in Nature for the marriage relation, and thus for the origination of the family. The impression of wonder which is made by a new-born child, by its physical structure and its instincts and aptitudes, falls little short of that produced by a miracle. Through the institution of the family a basis is provided for a larger community, the state. The family is fitted to be a school for discipline in obedience, loyalty, and self-sacrifice for the sake

The family.

The state.

of others. It is a school to qualify the members of the household for citizenship. Through the family and the state conceptions are awakened and feelings are nurtured which appear designed to serve as an education for a society of wider compass, even for a kingdom of which God is the Father and Sovereign. Looking at these relations in which man is placed, we see in them, regarded by themselves, the clearest evidences of design. They bring God before us. This effect is deepened when we discern the way in which they prepare human beings for his service.

Religion.

We have arrived at the conclusion that the world is an effect of divine power, the product of God's intelligent, voluntary agency. What is the extent of the power thus revealed? Are we justified in pronouncing him, in strict speech, almighty? It is urged that, however vast is the power required for the effects of which we are made aware by the wide-reaching evidences of design, we are only authorized to assume an amount of power adequate to obtain the actual result. As the world is finite, it is said that only a finite measure of power is demanded to account for it. But it is manifestly fallacious to conclude that the power of God is exhausted by the outlay of it in Nature. Even as regards human beings to whom in a qualified sense we ascribe creative

Extent of Divine power.

power, we do not conceive of their resources as entirely expended in the works which they actually produce. The chisel of Michael Angelo did not do everything that it was capable of doing. It is a characteristic of the writings of Shakespere that they evidently spring from a genius that is well-nigh inexhaustible. Again, it must be remembered that the actual constitution of the world is a result of choice. We are not to imagine that no other or different world was possible to the Divine Being. It is a case where there was an exercise of will and preference among different possibilities. The power that is implied in the existence of the actual world, to one who contemplates its indefinite vastness and the inconceivable variety of its constituent parts, is felt to be immeasurable. It is not difficult to believe that it is literally without limit. But the premises in strict logic do not compel to this conclusion. Our conviction on this point rests on other grounds. What has just been remarked respecting the omnipotence of God is applicable also to the question of His omniscience.

The unity of God.

The evidence for the unity of God which has already been adduced is corroborated by the argument of design. If Dualism, the assumption of two eternal powers dividing between them the work of creation, ever had any plausible support, that support has vanished

through the progress of science. Nature not only exhibits design; it is comprehended in one vast network of design. To the anatomist, the most ungainly and repulsive animals are links in a zoölogical system and essential to its symmetry. The animal creation requires the vegetable as an indispensable condition of its being, and both these kingdoms presuppose and involve the entire realm of things below them. Optical discoveries prove that the distant suns and constellations are homogeneous with the earth. God is known to be one, because Nature is one.

Does design prove creation?

Convincing as the argument of design must be admitted to be, the question may be raised whether it contains the proof that Nature is created outright, or absolutely from nothing. Are we warranted in inferring more than that the raw material, so to speak, of material Nature has been moulded and shaped by divine power and wisdom? May not matter itself be co-eternal with the divine Being? In reply to this question it is to be remarked that the properties of matter are inseparable from matter itself. Whatever matter may be, its properties belong to its very being. Now it is in these properties that there lies the capacity of being moulded and shaped into the forms that bespeak intelligence. This capacity is equivalent to an adaptedness which implies design. Therefore matter it-

self must be referred to God as the Creator. It must be borne in mind that God is not to be conceived of as working upon Nature from without. He is immanent in Nature. His power is exerted from within. Man's works are upon Nature from without. He takes existing materials and laws, and bends them, as far as it is possible, to his uses. A like conception of God in relation to Nature is not Theism, but Deism. The theistic conception is of a God who, while he is transcendent and personal, dwells in Nature and makes himself manifest in its laws and phenomena. This conception carries in it the conception of him as a creator, not as a manufacturer.

CHAPTER IV.

THE MORAL ARGUMENT

THE moral argument for Theism is derived from the consideration of the free and responsible nature of man. That we are endowed with such a nature is verified by the consciousness and common sense of mankind.

By the freedom of the will we mean that in the act of choice the will is exempt from any constraint, whether from without or within. The states of mind that precede the voluntary act do not necessitate it. There is an alternative which is open to selection. The mind in the act of choice is not shut up to the preference which it actually exercises. It is an elective preference. In this meaning of the terms there is a self-determination. Here is a radical distinction between the mind, as far as this mode of its activity is concerned, and all motion and change in the material sphere. In nature without, there is nothing analogous to self-motion. It is true that in the case of choice there are motives, otherwise there would be nothing to choose. But

The freedom of the will.

the motives do not coerce. The rival object might have been chosen. The competing course might have been preferred.

Evidence of the freedom of the will.

The freedom of the will is a fact of consciousness. When we put forth an act of choice, we know that we are possessed of this liberty. Looking back upon the act after it was performed, we know that we could have chosen otherwise. The existence of such a liberty of will is presupposed in the language and common conduct of mankind. It is assumed in the laws, and institutions, and all the intercourse of society. It is implied in self-approval and self-reproach, and in the praise and blame which men attach to one another.

Alleged occult causes of choice.

It is sometimes maintained that the direction of the will in the act of choice is really the effect of causal antecedents, which are thought to be absent merely because they are occult and unperceived. This allegation is a bare assertion which there is no adequate evidence to sustain. It brands as illusive the testimony of consciousness, and contradicts our self-judgments as well as our judgments of one another.

It is contended, also, by necessarians that the doctrine of the liberty of the will is inconsistent with the maxim that nothing can occur without a cause. But in the case of a choice, the will is it-

self the cause. It is not an instance of an occurrence without an exertion of power involved in it. There is, to be sure, a qualification of the maxim just referred to. There is no such control of causation as exists in the material world and in relation to mental activities which are involuntary. The will is not confined to one direction in its action. In this particular, it is not subject to the constraining action of the law of cause and effect. Herein its liberty consists. This is the meaning of it.

Relation of freedom to causation.

It is objected, again, that the doctrine of the freedom of the will is incompatible with that uniformity which, it is affirmed, is observed in men's choices. It is said that, knowing their mental tendencies and their circumstances, we can predict in a great many cases what their voluntary action will be. It is argued that if we could completely discern "the springs of action," we should probably be able to foretell choices as correctly as eclipses are foretold by astronomers. In affirmations of this kind it is overlooked that multitudes of volitions are put forth simply to carry out underlying choices which are freely originated, and which abide and are silently active in the mind. Understanding that your friend has resolved to take a walk to the post-office, you can of course foresee that he will put forth the numerous voluntary acts which are

Alleged uniformity of choices.

involved in the execution of the purpose. This simple illustration will serve to explain the operation of habit in the countless instances when habit is voluntary in its origin, and not only in its origin but also in its continuance. If one has "made up his mind" to a given course of conduct, provided he does not reverse this generic purpose, it is quite possible to predict a host of volitions which he will put forth in consequence. It is a mistake to conclude from uniformity in the action of a person's will under given circumstances, that the will is not free in the sense we have defined. If your friend chooses a direct instead of a circuitous path to the post-office, it does not prove that he *could* not have chosen to take the longer way. The will is not the less free in its action because that action, under a certain set of circumstances, is constant. Nay, if uniformity in voluntary action had no exceptions, if it were always true that the will in the same combination of circumstances, internal and external, would always choose in the same way, the doctrine of necessity would not thereby be established.

These remarks suggest the answer to an argument against freedom which is sometimes deduced from statistics of crime or of other social events and characteristics. That a community should have certain traits at a given time, and that an approximative calculation should be possible as to

the percentage of incidents of one sort or another that will occur in it, does not disprove the liberty of the will. The persistency of qualities of character is quite compatible with their voluntariness. But, now and then, a shock will be given to statistical prediction. The Wesleyan reformation in England produced a remarkable diminution of crime and vice, and of the poverty consequent upon them. A great moral revolution comes in to overthrow arithmetical prophecies.

Conscious subjection to moral law.

But while man is free, he is equally conscious of being subject to a law, not of his own making. It is a law written on the heart. In particular decisions as to where the path of duty lies we may be confused and misled by ignorance and bias, but the feeling of obligation to do that which is felt to be right is imperative. This imperative character—the feeling that "I ought," that "I must" whether I desire it or not, the alternative being disobedience to a holy voice heard in the sanctuary of the soul—this it is that stamps upon conscience its unique quality. There are those who would account for the peculiarity of the sense of obligation by making it the effect of a perception of consequences in happiness or unhappiness, the element of right as something distinct not existing. It being once learned that one sort of conduct brings after it suffering, flowing, in part at

Conscience not a form of self-love.

least, from the disfavor of others, and that another sort of conduct has the opposite result, men feel impelled in the one direction, and deterred from the other. This feeling of attraction and repugnance is conceived to be transmitted by descent in the form of an inner impulsion, while its origin is forgotten. This mode of explaining the feelings of conscience fails to account for the distinguishing elements in our moral experience. Why am I *bound* to seek for happiness? If I am not so bound, how account for the conviction that I am? If this conviction is illusive, then on the discovery of the fact the feeling of obligation vanishes. Righteousness is identified with prudence — a prudence that has no authoritative basis. Duty is resolved into expediency. The sense of baseness differs radically from the sense of being in a low condition without moral fault. Remorse is utterly distinct from mere regret. The sense of shame on account of an unworthy action is incapable of being confounded with any feeling of humiliation that is void of this essential ingredient. No theory of the genesis of conscience is admissible which destroys the object that it would analyze and trace to its origin. To surrender or to allow to be weakened, in deference to any speculation, the healthy sense of obligation and responsibility is more than an intellectual mistake: it is immoral. It carries with it a degradation of character.

Through the operations of conscience we discern that we are subject to a righteous lawgiver who rewards and punishes. We are brought into contact with the moral attributes of the Being in whom we live and move. There is within us an immediate, undeniable testimony to his holiness and righteousness.

Consciousness of a righteous lawgiver.

Moreover, as the moral nature of man is developed and enlightened, we arrive at the clear perception that benevolence is the substance of the law which conscience imposes upon us. The character of the Creator and Ruler is made known as benevolent, as well as holy and righteous. He is thus recognized as the impersonation of Holy Love.

The benevolence of God inferred.

Substantially the same argument is put in a different form by Thomas Erskine, of Linlathen, who writes thus: "When I attentively consider what is going on in my conscience, the chief thing forced on my notice is, that I find myself face to face with a purpose—not my own, for I am often conscious of resisting it—but which dominates me and makes itself felt as ever present, as the very root and reason of my being. . . . This consciousness of a purpose concerning me that I should be a good man—right, true, and unselfish—is the first firm footing I have in the region of religious thought, for I cannot dissociate the idea of a purpose from that of a Purposer, and I cannot but identify this

Purposer with the Author of my being and the Being of all beings; and, further, I cannot but regard his purpose toward me as the unmistakable indication of his own character." [1]

A righteous Moral Governor.

There is another branch of the moral argument. We find ourselves confronted with evident traces of a moral government. The course of human affairs affords sufficient proof of a righteous administration on the part of the Supreme Ruler. Rewards in the form of the allotment of happiness follow in the train of virtue, and suffering is the ordained consequence of vice. These rewards and penalties consist not only of the feelings which the consciousness of right-doing and of wrong-doing produce respectively among the virtuous and the vicious, but the course of things is so arranged that advantages and disadvantages in many forms accrue from without, according as men obey or disobey the moral law. "Whatsoever a man soweth, that shall he also reap," is not merely a declaration of Scripture; it is a fact of observation. It is a maxim which is based on a wide range of experience. It is true that the distribution of good and evil is not in strict proportion to the deserts of the individual. The rule seems to be not without exceptions. Calamities befalling the righteous and

[1] "The Spiritual Order and Other Papers," pp. 47, 48, quoted by Flint, "Theism," p. 402.

prosperity enjoyed by the wicked are phenomena which demand a particular consideration. But however the allotments of Providence may strike us as falling short of the requirements of justice, or as varying from them, there is enough left to convince the candid observer of the lives of individuals and of the history of nations that a righteous God reigns and orders the succession of events.

Not only are we furnished with proofs of the justice of God by experience and observation, there are not wanting likewise evidences of his benevolence. No reasonable person who contemplates the great aggregate of happiness which exists among sentient beings, men and the creatures below men, and notices how this happiness results from provisions in Nature directly adapted to produce it, can avoid the impression that the Creator and Lord of all is benevolent. It would be impossible to collect into a catalogue the sources of pleasure, and the methods of relief from pain, which have been introduced into the constitution and environment of the creatures of God that are capable of happiness. As to the suffering that exists in the world, while it does not destroy this conviction, it is still a perplexing fact which calls for special attention.

Proof of the benevolence of God.

The question is, why does evil exist under the

dominion of a God of absolute power and perfect goodness? This is a problem which in the present discussion we cannot neglect to examine. Evil is of various kinds. There is first, "metaphysical evil," as it is sometimes named—evil of a negative kind, consisting in that absence of happiness which results from limitations of capacity. A perfectly happy man, in proportion as his powers are less than those of an angel, is deprived of the surplus of happiness which the angel possesses. The cup of happiness may be full, but the cup is not so large. Secondly, there is physical evil or positive pain of whatever kind. Thirdly, there is moral evil—wrong-doing, or sin. Before taking up the question why evil of these different kinds is permitted to exist in the universe of God, it is desirable to call attention to the impregnable fortress in which the truth of the divine righteousness and benevolence is sheltered. That truth, whatever difficulties may exist in connection with it, is safe against every assault. The basis of it is in the constitution of our moral nature. In the human conscience God has expressed his preference for righteousness and his purpose that man should be righteous, and he has defined righteousness to be Love. In making Love the law, he has demonstrated that he is Love. There is no other rational interpre-

The problem of evil.

Three kinds of evil.

Doctrine of God's goodness impregnable.

tation of conscience. To distrust the justice or goodness of God is to distrust conscience. It is to cast away the organ and criterion of judgment. It is thus to disqualify ourselves for all such inquiry and criticism as the problem of evil suggests. For whence does the sceptic derive the faculties by which he undertakes to criticise the moral system? Where did he obtain the standard on which his judgments are based? If the universe is so at fault, what assurance has he that his own judging faculty, the author of this unfavorable verdict, is any better constructed? In truth, reliance on our faculties, whether intellectual or moral, involves trust in the rectitude of the Creator. If it be granted, therefore, that the solution of this problem of evil is beyond the reach of our faculties—and none save the presumptuous would pretend to be able completely to solve it—our faith in God and in his moral attributes will stand unshaken. After this preliminary remark, we offer a few observations on the particular topic before us.

I. Metaphysical evil.

Metaphysical evil, that definition of evil which is owing to limits of capacity for happiness, exists of necessity, if there are to be finite beings. No finite being can be as blessed as the infinite One. Unless one is prepared to object to the existence of a system of beings possessed of varied capacities—unless one

is prepared to object to the exertion of creative power altogether — the objection on account of metaphysical evil falls to the ground.

II. Physical evil.

As regards physical evil, it is clear at the outset that no small part of the suffering in the world is incidental to the operation of general laws, and that these laws are beneficent in their operation. Nature is a *system*. There is no reason to think it desirable that it should not be a system. Were it not, foresight of anything beyond the present moment would be impossible. Human existence, if it could be kept up, would be a scene of hopeless confusion. The nerves which occasion exquisite pain when the body is accidentally touched by fire, are the sentinels that warn us of the approach of peril. Without their susceptibility to pain, they could not fulfil their merciful office. A man, perhaps a noble and useful man, loses his foothold at the edge of the sea, and is drowned. Who will venture to say that it would be better under such circumstances, all things considered, for the law of gravitation to be suspended by a miraculous interference? The great amount of pain that ensues from the inheritance of bodily ills is an evil inseparable from the law of heredity. But this law is the fountain of incalculable good. Who would wish to have it annulled? Who would wish men

Nature—a system.

Law of heredity.

to be, instead of a race bound together by an organic bond, a congeries of individuals utterly independent in their origin? Since human beings are united by a social tie, and since they band together in society—in families and nations—it is inevitable that the innocent should suffer with the guilty. This is the price paid of necessity for the blessings of the social state.

Evil a means of discipline.

Human life is a school of discipline. The energies of mankind are developed in conflict. There must be a struggle for subsistence. There must be a battle, with dangers to life, and health, and peace. The intellect is stimulated. Virtues of character grow up in the midst of scenes that involve peril. Complete safety and plenty are not the conditions under which civilization advances and manliness attains to its full development.

Physical the fruit of Moral evil.

These are among the reflections which have weight in answer to the objection to Theism on the ground of the existence of physical evil. But there is another thought in this connection of cardinal importance. We live in a world where moral evil, voluntary wrongdoing, abounds. This being the fact it is presumptuous to affirm that the physical evil that exists might profitably be excluded. We know, as concerns the sufferings of the wicked themselves, that in countless instances it is better that they

should suffer. The system of things would not be improved by an opposite arrangement under which iniquity should bring with it no loss or pain. For aught that can be shown to the contrary, on the supposition that moral evil is to exist it may be well that all the physical evil of which we have any knowledge is ordained to exist. It is the dictate of a wise humility to bear in mind that we are dealing in our thoughts with a system imperfectly comprehended.

III. Moral evil.

The stress of the difficulty concerning the existence of evil centres in the question respecting moral evil. Why is wrong-doing allowed to take place? Why is not sin excluded? If God is almighty, why does he not prevent it? The hostility of God to sin is plainly manifested in the testimonies of nature to which we have had occasion to advert. He has promulgated in conscience his law against it. He has proclaimed his approbation of right moral actions and his condemnation of wrong moral actions in the system of rewards and penalties which occur by the operation of natural laws. These laws are his ordinances. In reference to this subject, the fact that God in his Providence overrules wrong-doing, baffles to so great an extent its natural tendencies, and makes it the occasion of good, sheds some light upon the problem. His holiness can-

Sin overruled for good.

not be challenged. Still the inquiry remains, why some other means of securing the good attained by overruling man's evil-doing are not adopted? Why is sin permitted to defile the creation and bring into it so much disorder and ruin? Seeing that his benevolence, his opposition to the occurrence of moral evil, is manifest, we are naturally led to ask whether there may not be something to render the exclusion of moral evil, by divine interposition, from the created system incompatible with the nature of things. The reason given in Scripture for allowing the tares to grow with the wheat contains a suggestion in Natural Theology. It is *conceivable* that some contradiction may be involved in the exclusion of wrong-doing where wrong-doing actually occurs in that vast system of created things of which we see but a small part. To make a thing to be and not to be at the same time is not an object of power. Omnipotence is the power to do all things not involving a contradiction. The glory of the divine system is that it contains in it a multitude, we know not how great, of free beings, endowed with the capacity of choice, and therefore, of necessity, with the power to elect evil rather than good. It is *conceivable* that the exertions of divine power which would be indispensable in order to prevent the occurrence of sin where as a matter of fact it ex-

Possible that sin cannot be wisely prevented by the Creator.

ists, would needs carry with them, as an incidental effect, such a deterioration of the system as would more than balance the advantage gained. The secret of the permission of moral evil may lie in the fact of free-will, existing to so broad an extent as it does exist in the best of all the systems eligible, even to unlimited power. This is the same as to say, not that God cannot prevent the evil that exists from occurring, but that he cannot wisely do so. We are not bound to prove that this is the true solution of the problem. To meet objections in relation to the divine attributes, it is only requisite to show that it *may be* the true solution. As long as the exclusion of evil may be thus incompatible with wisdom, and due to no proper deficiency in power, the objector is disarmed.

Possible evil results from an alteration of the system of created agencies.

CHAPTER V.

THE INTUITION OF THE INFINITE AND ABSOLUTE

THE words "infinite" and "absolute" are, as regards verbal form, negative. "Infinite" signifies the "not-limited," and "absolute" denotes the "non-relative." A generic word which includes both terms under it is the "unconditioned," which is also in its verbal form a negative. But we must guard against the idea that these terms, even when they are used as substantives, denote something non-existent.

What the terms mean.

When we look abroad upon the world, we find a multitude of objects, each of which is limited in its powers, none of which is complete or independent. There is everywhere demarcation, mutual dependence, and reciprocal action. Looking within, we find ourselves in like manner restricted. Our mental action is conformed to a definite mental constitution. We arrive at distinct self-consciousness by distinguishing ourselves from things not ourselves. The universe is perceived to be a vast complexity of objects inter-related, neither of which is independent, self-originated, self-sustained.

Perception of the finite and the relative.

Involved in this consciousness of the condi-

tioned, there is a consciousness of what, so to speak, is its background, the unconditioned. It is the correlate of the finite and relative. It is not a mere idea; it is known as a reality. There is an intuition of a being, neither finite in powers nor related to other beings as a condition of existence. Most philosophers at the present day are in accord in teaching that we have this necessary belief in the unconditioned. This is true of the principal leaders of the agnostic schools.

The unconditioned.

Be it observed that the "infinite" does not mean the sum of all being. It means that the powers or capacities of the being of whom infinitude is predicated are limitless. So the "absolute" does not imply that there are no other beings with whom it stands in a relation. The meaning is that other beings are not necessary to its existence. Rather is it self-existent, and all other things exist in a relation of dependence with reference to it. The absolute being is subject to no limitation that is not self-imposed.

The infinite not the totality of being.

The absolute not exclusive of all beings else.

It is sometimes asserted that if the unconditioned being is infinite, that being cannot be personal. Personality, it is said, implies finiteness. This is a rash and unfounded inference from the circumstance that in the case of man finiteness is connected with personality. This is owing to the fact that man's

The infinite and absolute is personal.

personality is developed in connection with a body, and to the additional fact that he is simply one of numerous finite personalities of the same class. To assert that self-consciousness *cannot* exist independently of these particular conditions to which man is subject, and by which he comes to a knowledge of himself, is a leap in logic. The unconditioned being may be personal without being subject to the restrictions and infirmities that pertain to human beings. Personality either belongs, or does not belong, to the unconditioned. But if personality—that is, self-consciousness and self-determination—are wanting, there is surely a lack quite inconsistent with any rational conception of the infinite and absolute being. Infinitude consists not in being destitute of the highest perfections of man. God is infinite, not as being void of qualities. A being destitute of qualities is a zero. Infinitude is the possession of all conceivable perfections without measure.

The infinitude of God's attributes.

It is the intuition of the infinite and absolute which fills out whatever is deficient in the several proofs of Theism that have been adduced. It furnishes a valid assurance that he whose power, as seen in the universe, is great beyond conception, is literally almighty. The like is to be said of his wisdom and of all the other divine attributes to which nature bears witness.

CHAPTER VI.

ANTI-THEISTIC THEORIES

If the arguments on the preceding pages are valid, opinions at variance with Theism are logically excluded. But brief comments upon such theories, in addition to what has been indirectly brought forward in refutation of them, will not be out of place.

Materialism defined.

One form of anti-theistic theory is materialism. The coarser form of the doctrine, that thought is a material substance, is obsolete. The doctrine, as far as it is now held, is that thought is the attribute or product of nervous matter, as magnetism is the property of the loadstone. It follows that when the brain dies the mind ceases to be.

No bridge between mind and matter.

In looking at this theory, the first thing that strikes us is the absence of any support for it in the facts of physiology and psychology. Intimate as is the relation between our physical organism and our conscious states of thought, feeling and will, we seek in vain for any bridge to span the gulf that separates

body and mind. There is no likeness whatever between the molecular movements of the brain on the one hand, and the perceptions, emotions, and volitions which are associated with them. "They appear together," says Professor Tyndall, "but we do not know why. The passage from the physics of the brain to the corresponding facts of consciousness is unthinkable." The doctrine of the "conservation of energy"—that no amount of energy is dissipated or lost, but simply changes its form, and is resolved into an equivalent—affords not the least aid in filling up the chasm between thought and physical movement. Force is not transformed into thought, nor is thought transformed back again into force. "All the force in the molecular action is fully accounted for by physical changes in the body." There is no transmission of physical energy from matter to mind. There is no imparting of energy from mind to matter. What we call the "influence" of mind and body upon one another admits of no physical explanation. If the mind is strongly affected by physical changes—consciousness, for example, being suspended in consequence of a blow on the head—it is equally true that distinctively mental states have a reciprocal influence upon the body. The emotion of fear brings pallor to the cheek. The news of the death of a dear friend

The "conservation of energy."

Reciprocal influence of mind and body.

may bereave us in an instant of all strength, or strike us prostrate to the earth. No scrutiny into the physical antecedents of these effects avails in the least to explain them. To seek for a solution on this path would be as absurd, from a strictly scientific point of view, as to ascribe to consciousness color, or size, or weight. Close as is the connection, therefore, which subsists at present between mind and body, it furnishes no proof that when the body dies the mind ceases to exist.

Absurdities of materialism.

Materialism, and the fatalism which belongs with it, really involve absurdities without end. What is truth or falsehood on this hypothesis? What are reasonable and irrational judgments? What are sanity and insanity? All acts of perception, all states of mind, are, any one as much as any other, natural phenomena occurring in the course of the regular action of nature's laws. The molecular movement of the brain, it is said, causes one state of consciousness to succeed to another; but, on the materialistic philosophy, one is equally rational with the other. All are alike necessary steps in the process of evolution. There is no criterion to serve as a basis for a distinction between that which is normal and that which is abnormal. How can one particular disposition of molecules charge another with going astray? The judge is on the same level with the parties judged. Tyndall, de-

fender of the doctrine that all things that are or have been were potentially present in matter, was disposed to ascribe the scientific beliefs of Agassiz, whose sincerity he did not question, to the circumstance that his grandfather was a clergyman! But has not everyone a grandfather? Why not attribute Tyndall's own theories to an analogous cause? Who shall decide, as between the two progenitors, whose brain was the soundest? As we have suggested, how can such a question be asked, when all is normal, and when the very discrimination by which one sets the grandfather of Tyndall above the grandfather of Agassiz is itself a mere phenomenon of molecular action? Who can predict what opinion will emerge upon some later shuffle of atoms?

There is an irreconcilable conflict between the highest feelings and aspirations of the human soul and the materialistic theory of the universe. It has been justly said that the feeling of *compassion* is at utter variance with the system of things, in case, as it is asserted, nature is *pitiless*, and there is no compassionate and helping power besides. *Self-forgetfulness* is the very antipode of *self-assertion* which reigns everywhere in the objective world. "The real world," says Mr. Martineau, according to the materialistic creed, "provides *interests* alone, which, when adequately masked, call them-

Materialism contradicts the moral sentiments.

selves virtues, and pass for something new." Under the withering breath of materialism, the higher feelings lose "all support from Omniscient approval, and all presumable accordance with the reality of things."

Conscience *versus* materialism.

The argument from conscience effectually confutes materialism. No man of sane mind can deny that the phenomena of the moral nature are as real as any which the senses or the instruments of a physicist can observe. They are facts which science, in the large sense of the term, must take notice of or abdicate its function. To ignore the vast and various phenomena which connect themselves with the sense of moral responsibleness, is impossible. What account shall be given of moral praise and blame—of self-approval and censure? Here these feelings are, and here they always have been. Do they testify to the truth? If they do not, then away with the language which only serves to deceive; away with all the multiform expressions of moral approbation or condemnation; away with courts of law, and the other infinitely various manifestations of the sense of justice and moral accountableness, on which the entire fabric of social life reposes! The materialist must allow that these verdicts of the moral faculty, be their genesis what it may, are as valid as are any judgments of the intellect. The moral discernment

rests on as solid a foundation as the intellectual perceptions. Now apply the doctrine that the determinations of the will—the faithfulness of St. John, and the treachery of Judas, alike—are the necessary effect of atomic movements of matter. They simply indicate a certain molecular action of the matter in portions of the brain. Then moral approval or condemnation, the joy of one who has triumphed over a temptation, the remorse of one who has betrayed the innocent, are the veriest folly. A man who maliciously shoots his neighbor has no more occasion to blame himself for the deed than has a horse who destroys a man's life by a kick. Men call such an animal, in figurative speech, a *vicious* animal; and, if materialism is true, there is no other kind of vice possible to a human being. Tyndall, in one of his productions, argues that this doctrine of molecular ethics is perfectly consistent with the application of motives for the purpose of inducing men to act in one way rather than another. These motives, it is implied, are forces thrown into the scale that the beam may rise on the opposite side. This is the statement which fatalists of every type are forever making. But the point insisted upon is not the freedom of the will as known by direct consciousness, although this evidence of man's moral freedom is incontrovertible; but the phenomena of moral approval and disapproval, of guilt, self-accusation, and re-

morse, are the facts that demand some explanation which shall not discredit their reality in the very attempt to explain them. Here it is that the materialistic psychology breaks down. Nor can it be said that this is opposing a doctrine by merely pointing out its mischievous consequences. The affirmations of conscience referred to as putting to rout the advocates of materialism are as truly perceptions and judgments as are any of the propositions that result from the exercise of the senses or the understanding. If materialistic evolution, as predicated of moral action, be true, the rational nature is at war with itself. There is an insoluble contradiction in human intelligence itself, which no sophistical juggle of words can avail to cover up, much less to remove.

Pantheism denies the *personality* of God. The God of the Pantheist is not only immanent in the world: this the Theist also believes. But the Pantheist knows of no Deity separable from the world or as anything else than its all-pervading cause or essence. Spinoza held that God is the impersonal substance of which all things are the manifestation. Hegel, the most distinguished of the German Pantheists, held that he is the self-unfolding thought-system of the universe—the self-unfolding system which constitutes all reality, and attains to self-consciousness in man, or mankind, collectively.

Forms of Pantheism.

Every scheme of Pantheism starts with unproved assumptions. Spinoza's theory of the "one and simple substance" is an assumption. The same is true of Hegel's notion that all reality is idealistic. There are violations of logic along the course of the construction of the Pantheistic systems.

Assumptions of Pantheism.

In making the mind a mere phenomenon or transient phase of an impersonal essence, Pantheism contradicts our consciousness. The mind knows itself to be a distinct, substantial, undivided unity, the centre and source of all mental operations.

Pantheism contradicts consciousness.

Every system of Pantheism is necessarian. It overthrows by necessary consequence moral responsibility, the absolute antithesis of good and evil, the distinction between natural history and moral history. Spinoza regards remorse as unreasonable, and finds no place for penitence. Moral evil, whenever it occurs, must be pronounced by the Pantheist to be normal.

Pantheism inconsistent with conscience.

Positivism is the antipode of Pantheism. The Positivist asserts that nothing is known but phenomena. Of causes, efficient or final, we are said to have no knowledge. Science is the arrangement of observed facts under the heads of likeness and unlikeness, and simultaneity or succession in time. But where

Positivism self-contradictory.

does the Positivist get the notions of likeness and temporal succession? They surely do not come to us through the senses. Causation and design have as good a warrant as these ideas. It is undeniable that our mental states form a distinct, peculiar class. If they are not to be referred to the mind as their source, they must be attributed to matter. But to adopt this latter branch of the alternative would be to fall back into materialism.

Agnosticism differs from Positivism in asserting that behind phenomena there is a reality which is their ground. But of the nature of that reality it professes to be absolutely ignorant. It is an "Unknowable." Our states of consciousness are its *effects*. "A Power," says Herbert Spencer, "of which the nature remains forever inconceivable, and to which no limits in time or space can be imagined, works in us certain effects." [1] The method in which the inscrutable Power acts is Evolution. Matter differentiates itself, passing on through successive stages, until nervous organism comes to exist, and at length personal consciousness arises. All our mental life, with its complex contents, is woven out of sensations. It is denied that this theory is materialism, for the reason that the nature of the underlying reality is declared to be inscrutable. All our perceptions of the world outside of con-

Spencer's Agnostic theory.

[1] "First Principles," p. 557.

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sciousness are affirmed to be symbolical. The symbols, however, afford no clew to the discernment of what they stand for.

It is evident that in this system nature is made to beget consciousness, and consciousness, in turn, is made to beget nature. We know nothing of nature except as "transfigured" in consciousness. It is plain, moreover, that "the unknowable" is confessed to be known when it is said that "the unknowable" works in us certain effects. If it is a "Power," a "Cause," there is equal ground for saying that the attribute of wisdom belongs to it, and the other attributes which are discovered in its effects. It is said that we know not what is denoted by "power" and "cause." But take away "cause," whatever it be, from "the unknowable," nothing is left; and it is granted that the only cause of which we have any idea is our own personal activity.

Agnosticism self-contradictory.

The Agnostic attaches the same symbolical character, or anthropomorphism, to all our conceptions and language respecting nature as he asserts to be implied in attributing personality to God. Thus it follows that the truths of natural religion stand on the same basis as the natural sciences—chemistry, for example, with its doctrine of the atomic constitution of matter.

Religion on a level with science.

Theism concludes that God is an intelligent be-

ing because intelligence is manifest in the effects of his agency. Paley makes use of a watch to illustrate the argument of design. Herbert Spencer makes the strange observation that could the watch, in Paley's example, think, it would judge its creator to be like itself, a watch. Could the watch think and choose, it would be rational, and would then reason like other rational beings, and conclude that the artificer of such a product as itself must have designed it beforehand—that is to say, must be a mind.

Agnosticism denies free-will.

Agnosticism, denying the reality of the *ego*, denies at the same time man's moral freedom in any true sense of the terms, and thus sweeps away that personal responsibility for our moral choices which is a fact of consciousness.

Alleged relativity of knowledge.

Agnosticism, like other systems more or less kindred to it, is built on what is called the relativity of knowledge—a doctrine which, in the sense given to it, is untenable. It is the doctrine that the mind is incapable of knowing things as they are; that knowledge is a process going forward within us to which there is no corresponding reality; that the mind is, so to speak, a mill which so transforms whatever falls into it that its original likeness vanishes. Sound philosophy begins in the full and consistent recognition of the veracity of our knowing facul-

ties. Intuitions are the counterpart of reality. The laws of thought are the laws of things. Distinct as mind and nature are, there is such an affinity in the constitution of both, and such an adaptation of each to each, that knowledge is not the bare product of subjective activity, but a reflex of reality. In the manifestations of God in the soul and in the world without, God is truly manifest.

CHAPTER VII.

THE FUTURE LIFE OF THE SOUL

Does the soul survive the death of the body? We cannot infer that it does from the native desire of a continuance of life, for the lower animals share with man this instinctive desire, which is provided as a means of self-preservation. It is only when this desire rises into a loftier aspiration, the object of which is something higher than the mere prolongation of life, that it can enter into the foundation of a belief in an existence beyond death.

Future life not proven by the desire to live.

In answering the question proposed above, the first point to determine is whether man has a soul. If what we term the soul is nothing but a function, or mode of action, of the body, or of parts of it, it would be absurd to expect the soul to outlive our physical organism. We might as well look for speech when the vocal organs are dissolved into dust. Materialism, where it is accepted, is fatal to the belief in a future life of the spirit. The reasons have already been indicated which evince materialism to be a ground-

Materialism excluded.

less theory, resting on superficial impressions, and vanishing under the scrutiny of science. There is nothing, therefore, in the relation of the body to the soul to prevent the soul from continuing to exist in other spheres of activity when it parts company with its material vesture. There are considerations that tend to inspire the belief that such is its destiny.

Proof from the capacity for progress.

Man, within the period of his earthly life, does not and cannot attain to the end of his being. He is capable of an indefinite intellectual progress. The lower animals are bounded in their advancement by the operations of instinct. Their horizon is close about them. Being endowed with reason and with aspirations after knowledge, man, when his intellectual nature has been stirred within him, is debarred from traversing the field that ever allures him onward. He is obliged to halt on a journey which would seem to have just begun. The career is cut short for which he appears to be destined, and for which he is fitted by the Author of his being. If it be thought that death extinguishes the spiritual part, the design of God respecting him seems to be thwarted. It is rational to suppose that death is a passage through a gate to an ampler field where progress in knowledge will not be broken off.

A cogent proof that death is not the end of the soul's life is found in the fact that the system of

moral government which God is evidently carrying forward in this world is here incomplete. In this system he is revealed as allotting happiness to the good and suffering to the wicked. The method of his administration is clearly discerned. The purpose is brought to light. But the system is not strictly or fully carried out. There is not an exact proportion between the character of individuals and their lot. Here on earth the harvest is but partially reaped. It is said that virtue is its own reward, and vice its own penalty. This maxim has a foundation in truth, as pointing to the fact that the best rewards and the severest punishments are not of an external nature, but lie within the sphere of the soul which is holy or guilty. Yet time is required, and very often a longer time than the limit of the longest earthly life allows, for spiritual blessedness on the one hand, and misery on the other, to emerge in their full and proper measure. Virtue, while in the struggle with temptation, does not yet enjoy the fruits of virtue. To attain these virtue must be established in undisputed control over insubordinate ideas and passions. Wickedness, as long as its prosperity lasts, does not feel the stings of conscience in their full severity. The evil man may die before remorse overtakes him. Nor ought we to omit to notice the fact that innocence may not infrequently fail of a just vindica-

God's moral government incomplete.

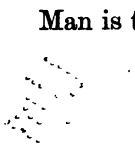
tion on the present stage of human life, and iniquity may escape a righteous exposure. Is not the expectation of the maligned, of the victims of fallible human verdicts, that a day of redress will come, rational? And is not the fearful looking-for of judgment, a feeling so natural to the iniquitous, equally rational?

Life a probation.

One period of our life is perceived to involve a *probation* in reference to the period that follows. Our character and circumstances in the later period are determined by what we do, or fail to do, in the earlier. This is not a conjecture, it is not a mere probability; it is a truth of experience. The child is father of the man. The observed fact of a probation takes away the charge of unreasonableness in the idea that the whole of life here is a probation as related to a life hereafter. But the fact of probation is more than a mere analogy. It has more than a simply negative force. We see that probation, with its two elements of sowing and reaping, is not, as we have before remarked, closed up in the present life. Hence we are justified in anticipating a continuance of conscious life in a world beyond.

The worth of the soul.

The reality of a future life is a reasonable conclusion from the *worth* of the soul. The human soul is the goal toward which the world's history prior to man points and leads. Man is the crowning work of God. His value lies



in the spirit that is in him. The long approach in the upward course of things at last conducts to this product of supreme worth, the rational soul,

> "With such large discourse,
> Looking before and after . . . .
> That capability and godlike reason."

Will a thing of priceless worth be blotted out of being? Will the Maker fling away to nothingness the consummate work of his hands?

Investigation shows us that through the creation a purpose runs. Everything that comes from God has its place in a comprehensive design. But unless man survives death all is for naught. The world as a whole is purposeless. It terminates in no end commensurate with the wisdom discovered in its creation.

Man's capacity of fellowship with God.

The religious nature of man, his capacity for fellowship with God, warrants the expectation of a life beyond death. Would God enter into a close relation of spiritual fellowship with a creature whom he intended in a few days to strike out of existence, or to suffer to become absolutely extinct? It appears incredible. This argument is brought forward in the Scriptures. It is adduced here, not on the authority of the Scriptures, but from its intrinsic force as an argument. Man in intercourse with his Crea-

tor—in such intercourse as takes place in prayer—stands on a lofty plane. Such a position is incompatible with the idea that after a short interval he is to be left to drop into nothingness.

NOTE

THE ONTOLOGICAL ARGUMENT

THIS is an argument respecting the force of which there is a wide diversity of opinion. It professes to prove the being of God from the idea of God. It is presented by Anselm of Canterbury substantially in this form: We have, and cannot but have, the idea of a most perfect being—of a being a greater than whom cannot be conceived. This being actually exists: otherwise we could conceive of a being with all *his* perfection with the superadded property of existence. That is to say, we could conceive a being more perfect than the most perfect. Gaunilo, the monk who debated the question with Anselm, urged that if the argument were valid, then to imagine the most beautiful island is tantamount to proving its existence. In the same spirit Kant remarks that the conception of one hundred dollars is very different from having one hundred dollars in one's pocket. The reply of Anselm to Gaunilo was in effect this, that the conception of a perfect island is an arbitrary, artificial notion, whereas the conception of the

most perfect being is *necessary*. It is objected that *existence* is not an element in the concept, that the sum of the attributes is the same whether the idea has an object corresponding to it or not. To this it has been replied that it is *necessary* existence—*self-existence*—which enters into the idea of the most perfect being—that is, not mere existence, but a *mode* of existence; and that this *is* a property or element in the concept.

The intuition of the Absolute appears to embrace what the Anselmic argument attempts to cast into a syllogistic form.

Anselm's proof has been defended by Hegel. It is not rejected by Flint, "Theism" p. 279, and is considered valid by Shedd, "History of Doctrine," vol. i., p. 238.

Another proof of the existence of God from the *Truth*, the common bond of thoughts and things, is presented in "The Grounds of Theistic and Christian Belief," p. 41.

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